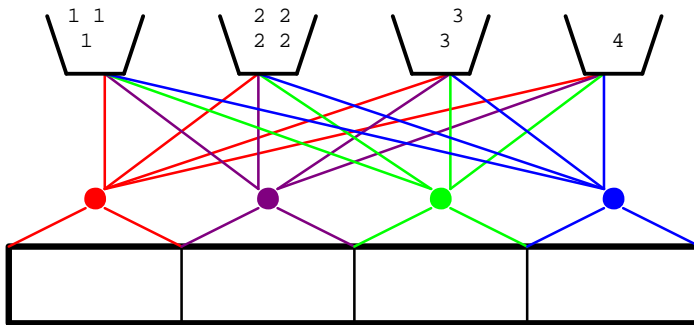## Integer Sort

This algorithm sorts a list of integers where the minimum and maximum values are known in advance. A count is made of the number of occurrences of each value in the list. In the example below, the list of integers can be of any length. The numbers in the list range from 1 to 4.
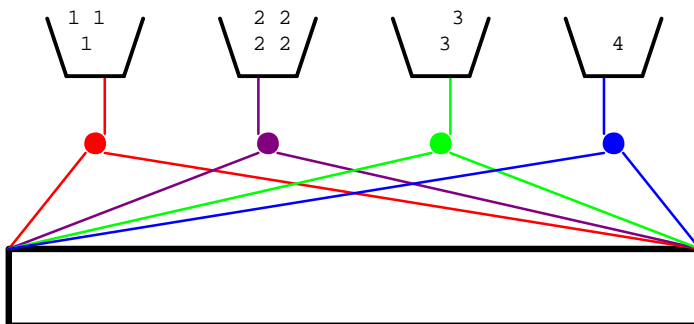
Method 1

The list is divided evenly between the threads. The threads update global counters for each value in the list.
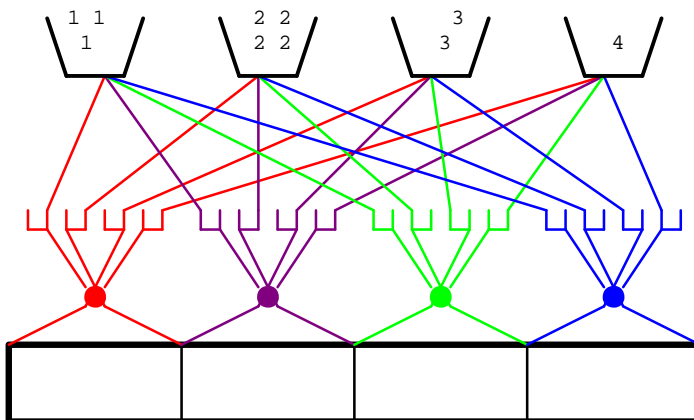
Method 2

Once again, the list is divided evenly between the threads. The threads update local counters for each value in the list. The results from each thread are combined into global counters.

Method 3

Each thread scans for a unique value and updates the appropriate global counter.

Quiz #6

1. What are the advantages of each method?
2. What are the disadvantages of each method?
3. Which method should execute the fastest? Slowest?

Clay P. Breshears and Henry A. Gabb, ERDC MSRC